

Energy Savings Calculators

Summary of All Changes

Please discard any previous versions of the energy savings calculators and use the most updated version, listed first below.

Version/ Date Revised	Topic	Calculator Revision	Calculator Section
Version 7 (4/6/15)	Effective Useful Life (EUL) change	EUL for Incandescent to CFL retrofit in ECM 1 was changed from 4 to 3 years.	ECM 1
Version 7 (4/6/15)	Formula linking issue	SIR calculation was linked to ECM rebate instead of ECM cost.	ECM 5 & 6
Version 7 (4/6/15)	Wattage change	Wattage for linear 4 foot LED lamps has been changed from 19 to 16 Watt.	ECM 6 and 6A
Version 7 (4/6/15)	Wording change	The word "Exterior " has been removed and "metal halide" has been added. This calculation can also be used for interior lighting.	ECM 8 & 9
Version 7 (4/6/15)	Typo Correction	The formula has been updated for occupancy sensor savings calculation	ECM 10
Version 7 (4/6/15)	Typo correction	Propane and fuel oil savings calculations were linked to percent of total tonnage retrofitted at the school. This link was removed.	ECM 11
Version 6 (2/27/15)	Energy Savings Adjustment	When an LEA uses the energy savings calculators for a large number of ECMs in the energy expenditure plan, the total energy and cost savings may exceed 80% - 90% of total energy use at a low energy use school site. During these instances, the calculator will adjust the energy savings down to 50% for each ECM in the end use group (i.e. lighting, HVAC, plug loads.)	All ECMs
Version 6 (2/27/15)	Benchmarking adjustments	The field, "Cost paid to PPA vendor & supplier," was added to collect the specific electric costs paid through Power Purchase Agreements & other suppliers. A second field, "Total Annual Utility Electric Charges," was added to collect the electric charges paid to utilities.	Benchmarking

Energy Savings Calculators

Version 6 (2/27/15)	Additional ECM	The following ECM was added: ECM 6A: Convert 4 foot T8 32 Watt Linear Fluorescent to LED Lamps	ECM 6A
Version 6 (2/27/15)	NEB correction	The non-energy benefit was corrected from \$0.05 to 5% of measure cost.	ECM 18
Version 6 (2/27/15)	PV calculator adjustments	<ol style="list-style-type: none"> 1. The LEA can select 20 or 25 years for EUL. If 25 years is selected, the LEA must provide a written performance warranty from the PV vendor. 2. The replacement cycle for inverters was revised from 8 to 10 years. 3. The replacement cost for inverters was reduced from \$0.70/watt to \$0.60/watt. 4. When an LEA switches to an A-6 TOU rate schedule in PG&E territory to maximize the cost savings for PV projects, the LEA needs to perform a custom cost saving analysis. 5. If an LEA has an approved PBI rebate, the LEA can enter the total estimated amount approved by the local utility. The calculator will convert the nominal dollar to the net present value for the SIR calculation. 	PV Tab
Version 6 (2/27/15)	SIR Calculation	Due to some very high rebate amounts, the sum of the rebates and the 5% non-energy benefits might be equal or greater than the measure cost. This will generate an infinite or negative SIR. To avoid this, at least \$1 will be kept in the denominator of the SIR formula.	All ECMs
Version 6 (2/27/15)	Correction	ECM 1 information sometimes shows up in the Total Summary Sheet even when it is not utilized. This has been corrected in this version.	ECM 1
Version 6 (2/27/15)	Expected Useful Life (EUL)	The EUL of LED exit signs have been revised from 15 years to 16 years.	ECM 3, ECM 4

Energy Savings Calculators

Version 5 (5/16/14)	kWh Production from onsite PV system	Two fields were added to key in information on kWh purchased from the utility and kWh production from the onsite PV. For schools with onsite PV system, kWh production from PV is included in the total electricity use for benchmarking purposes. However, this will result in a very low average electricity cost for the school and is detrimental to cost effectiveness of energy efficiency measures. The revision will calculate average electricity cost based on electricity purchased from utility only.	Benchmarking Tab, Electricity Section
Version 5 (5/16/14)	Non-Natural Gas Fuel Savings	For ECM 13A, ECM 13B, and ECM 16, for sites using propane or fuel oil with no natural gas, the energy savings of the propane or fuel oil were shown as 0. The calculators were revised to account for propane or fuel oil savings for these projects. This change applies to formulas in the calculator and will not be evident to the reader.	ECM 13A, ECM 13B, ECM 16
Version 5 (5/16/14)	Duct Sealing Savings	For ECM 14, for specific cases, energy savings from DEER exceeded the full year energy use. Revised savings calculations will not allow electricity and fuel savings to exceed 10% of total fuel use when duct sealing measures are used. This change applies to formulas in the calculator and will not be evident to the reader.	ECM 14
Version 4 (4/29/14)	Thermostat Savings	For ECM 16, for specific cases, energy savings from DEER exceeded the full year energy use. Revised savings calculations will not allow electricity and fuel savings to exceed 10% of total fuel use when manual thermostats are replaced with programmable or smart thermostats. This change applies to formulas in the calculator and will not be evident to the reader.	ECM 16
Version 3 (4/18/14)	Decimal Point Change	Decimal point increased for demand savings and fuel savings to allow for more detailed data. This change applies to formulas in the calculator	Total-Summary Tab

Energy Savings Calculators

		and will not be evident to the reader.	
Version 3 (4/18/14)	Link Correction Between Calculator and Total-Summary Sheet	In a few cases, simple payback and SIR for ECM 1 and 2 are not linked correctly to the Total-Summary Sheet. For ECM 5&6, rebate is not linked to Total Summary sheet. This change applies to formulas in the calculator and will not be evident to the reader.	Total-Summary Tab
Version 3 (4/18/14)	Adjusted Savings Formula	For ECM 13 and 16, in a few cases, energy savings from DEER exceeded the full year energy use. Revised savings calculations will not allow fuel savings to exceed 16% of total fuel use for condensing furnaces and boilers. This change applies to formulas in the calculator and will not be evident to the reader.	ECM 13 and 16.
Version 2 (3/4/13)	Link Correction in Calculator for SIR calculation	% of Non energy benefit in SIR calculation for ECM 13 to 18 was linked to a maintenance saving escalation rate. This change applies to formulas in the calculator and will not be evident to the reader. There is a slight SIR difference between the calculators and Form B. This change applies to formulas in the calculator and will not be evident to the reader.	ECM 13 to 18.